



STEP UP AND ACE THE CFA® EXAMS

Follows CFA Institute Prep Provider Guidelines

Level III

Behavioral Biases of Individuals

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1. Introduction

- Summary of what we studied in the earlier reading
- Behavioral Finance Micro (BFMI)
- Behavioral Finance Macro (BFMA)
- Financial Market Participants (FMPs)

2. Categorization of Behavioral Biases

Cognitive Errors

- Stem from statistical, information processing or memory errors
- Faulty reasoning
- Can be corrected through better information or education

Emotional Biases

- Biases influenced by feelings and emotion
- Spontaneous
- Less easy to correct

3. Cognitive Errors

Belief
Perseverance

1. Conservatism Bias → Maintain prior views by inadequately incorporating new information
2. Confirmation Bias → Look for and notice what confirms their beliefs
3. Representativeness Bias → Classify new information based on past experiences
4. Illusion of Control Bias → False belief that we can influence or control outcomes
5. Hindsight Bias → See past events as having been predictable

Information
Processing

6. Anchoring & Adjustment Bias → Incorrect use of psychological heuristics
7. Mental Accounting Bias → Treat one sum of money different from other
8. Framing Bias → Answer question differently based on how it is asked
9. Availability Bias → Heuristic approach influenced by how easily outcome comes to mind

Exercise: Briefly describe the five cognitive errors related to belief perseverance

Exercise: Briefly describe the four cognitive errors related to processing errors

Conservatism Bias

Maintain prior views or forecasts by inadequately incorporating new information

Has aspects of statistical and information processing errors

Causes individuals to overweight initial beliefs about probabilities and outcomes

Under-react to new information

Example 1

Conservatism in Action

Analysts Lag Reality

Embedded Example:

Investor hold a pharma stock; expecting approval on new drug

However, company announces that there are some issues in getting approval

If investor exhibit conservatism bias what is the likely behavior?

Overcoming Conservatism Bias:

1. Recognize that bias exists
2. Ask questions: How does this information change my forecasts? Impact?
3. Updating beliefs is inversely correlated with effort involved
4. Seek advice from experts

Confirmation Bias

Look for and notice what confirms your beliefs

Embedded example: Client insists on adding a stock... points only to research/articles which support his view

Consequences

1. Consider only positive information and ignore negative information
2. Develop screening criteria and ignore information that refutes validity of screening criteria
3. Under-diversify → excessive exposure to risk
4. Hold disproportionate amount of investment assets in employing company's stock

Overcoming Confirmation Bias

- Seek information which challenges your beliefs
- Get corroborating support from other sources

Representativeness Bias

Classify new information based on past experiences and classifications

Base-Rate Neglect: base rate or probability of categorization is not adequately considered

Categorize Company ABC as growth stock without appropriate due diligence

Rely on stereotypes without adequately incorporating base probability of stereotype occurring

Sample-Size Neglect: FMPs incorrectly assume that small samples are ***representative*** of populations

Consequences of Representativeness Bias

Adopt a view or a forecast based almost exclusively on new information and/or small sample

Update beliefs using simple classifications rather than deal with mental stress of updating beliefs given complex data; see embedded example

(to some extent this is the opposite of conservatism bias)

Example 2

Representativeness

Overcoming Representativeness Bias

Be aware of statistical mistakes you may be committing

Are you overlooking reality of investment situation?

Illusion of Control Bias

Incorrectly believe that you can control or influence outcomes

Consequences:

1. Trade more than is prudent. Example: Day-traders believe they have 'control' over investment returns
2. Inadequate diversification. Invest in company where you work because you control the company's future

Overcoming this Bias

Recognize that investing is a probabilistic activity

Global capitalism is complex → Even powerful investors have little control over outcomes

Seek contrary viewpoints

Keep records

Hindsight Bias

See past events as having been predictable and reasonable to expect

“In hindsight, poorly reasoned decisions with positive results maybe described as brilliant tactical moves, and poor results of well-reasoned decisions may be described as avoidable mistakes.”

Consequences:

1. FMPs overestimate degree to which they predicted past investment outcomes → false confidence
2. Unfairly assess money manager or security performance

Overcoming this Bias

Recognize the bias

Am I re-writing history or being honest about mistakes I made?

Carefully record and examine investment decisions – both good and bad

So far we have covered the five belief preservation biases

Exercise: Identify the five biases along with the major consequences of each bias

Exam Tip

Now we'll move on to the four information-processing biases

Anchoring and Adjustment Bias

Psychological heuristic influences how people estimate probabilities

Set an anchor which influences decisions; do not change or adjust anchor easily

Consequence:

FMPs may stick too closely to original estimates when new information is learned

Overcoming this Bias

Consciously ask questions that may reveal an anchoring and adjustment bias

Recognize that past prices and market levels are not an indication of what will happen in the future

Mental Accounting Bias

Treat one sum of money different from another sum of money based on which mental account (layer) the money is assigned to

Theoretically problematic because money is fungible

Consequences

Money placed in 'buckets' or 'layers'

Neglect opportunity to reduce risk by combining assets with low correlations

Irrationally distinguish between returns derived from income vs. capital appreciation

Overcoming this Bias

Recognize drawbacks of putting money in different buckets

Combine all assets on one spreadsheet

Focus on total return

Framing Bias

Information processing bias in which a person answers questions differently depending on how the questions is asked (**framed**)

25% patients who take the medicine will survive vs. 75% patients will die

Consequences

Willingness to accept risk is influenced by how situations are framed → Misidentify risk tolerances

Choose sub-optimal investments based on how information about specific investment is framed

Narrow frame → Focus on short-term price fluctuations

Overcoming this Bias

Ask questions: Is decision the result of focusing on net gain or net loss position

Try to be neutral and open-minded when evaluating investments

Example 3

Framing Bias

Availability Bias

Take a heuristic approach to estimating the probability of an outcome based on how easily the outcome comes to mind

Easily recalled and understandable outcomes are perceived as more likely

Sources of
Availability
Bias

Retrievability

Categorization

Narrow range of experience

Resonance

Consequences

1. Choose investment, investment advisor or mutual fund based on advertising
2. Limit investment opportunity set
3. Fail to diversify
4. Fail to achieve appropriate asset allocation

Overcoming the Bias

1. Recognize the bias
2. Disciplined approach to investing
3. Ask good questions: Did I consider all options?
4. Recognize that we forget events that happened a few years ago

Cognitive Errors - Conclusion

Statistical, information processing or memory errors that result in faulty reasoning and analysis

To avoid these errors:

1. Be vigilant and recognize that these errors do occur
2. Ask good questions
3. Gather record and synthesize data
4. Follow a systematic approach

Exercise: Identify the four information processing biases along with consequences

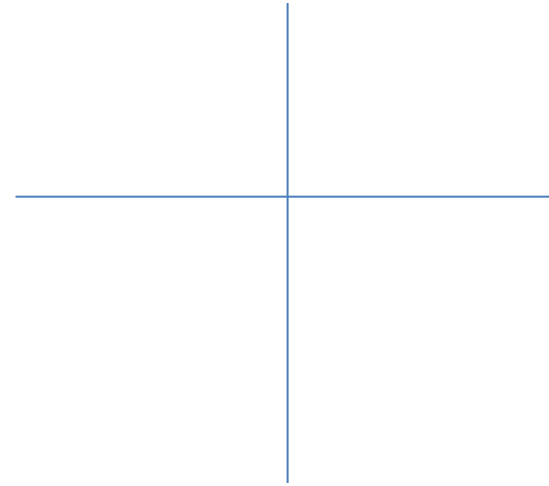
4. Emotional Biases

1. Loss-Aversion → Prefer avoiding losses over achieving gains
2. Overconfidence → Unwarranted faith in ones abilities
3. Self-Control → Fail to act in pursuit of long term goals
4. Status Quo → Do nothing rather than make a change
5. Endowment → People value asset more when they hold rights to it
6. Regret Aversion → Avoid pain of regret associated with bad decisions

Loss Aversion

Exhibit 3

Value function Of Loss Aversion



Consequences:

Hold investments in loss position longer than justified → Hold riskier portfolios than is justified

Sell investments in gain position earlier than justified → Trade excessively as a result of selling winners

Myopic loss aversion: even long term investors are influenced by annual returns

Example 4

Overcoming loss aversion bias: use a disciplined approach based on fundamental analysis

Overconfidence Bias

People demonstrate unwarranted faith in their own intuitive reasoning, judgments and/or cognitive abilities

Illusion of knowledge bias

Prediction overconfidence (confidence intervals too narrow)

Certainty overconfidence (probabilities too high)

Self-attribution bias: take credit for success and assign responsibility for failures

Consequences

1. Underestimate risks and overestimate expected returns
2. Hold poorly diversified portfolios
3. Trade excessively
4. Experience lower returns than those of the market

Overcoming the Bias

1. Review trading records, identify winners/losers
2. Calculate portfolio performance over 2+ years
3. “Don’t confuse brains with a bull market”
4. Conduct post investment analysis

Self-Control Bias

People fail to act in their long term best interest because of lack of self-discipline

“People pursuing CFA Charter may fail to study sufficiently because of competing short-term demands...”

Consequences

1. Save insufficiently for the future, and on realizing this...
2. Accept excessive risk to generate high returns
3. Asset allocation imbalance problems. Too much in income producing investments. If the income is consumed then might not have enough for retirement.

Overcoming the Bias

1. Create a good plan
2. Execute the plan

Status Quo Bias

People do nothing instead of making a change

“If it ain’t broke, don’t fix it”

Often confused with endowment and regret aversion biases
What is the difference?

Consequences

1. Unknowingly maintain portfolios with risk characteristics that are inappropriate for their circumstances
2. Fail to explore other opportunities

Overcoming the Bias

1. Education
2. Quantify risk-reducing and return-enhancing advantages of diversification and proper asset allocation

Endowment Bias

People value an asset more when they hold rights to it than when they do not

Violates the law of one price

Can combine with status quo bias

Clients reluctant to sell assets bequeathed by earlier generation

Consequences

1. Fail to sell certain assets and replace with other assets
2. Maintain inappropriate asset allocation
3. Continue to hold familiar assets

Overcoming the Bias

1. When dealing with inherited assets ask the question: if I were given an equivalent amount in cash how would I invest
2. Address emotional attachment

Regret Aversion Bias

People tend to avoid making decisions that will result in action out of fear that the decision will turn out poorly

Regret from action that is taken: error of commission

Regret from action not taken: error of omission

Consequences

1. Be too conservative with investment choices because of poor outcomes in the past
2. Engage in herding behavior

Overcoming the Bias

1. Education
2. Quantify risk-reducing and return-enhancing advantages of diversification and proper asset allocation
3. Recognize that losses happen to everyone

Exercise: Identify the six emotional biases along with consequences

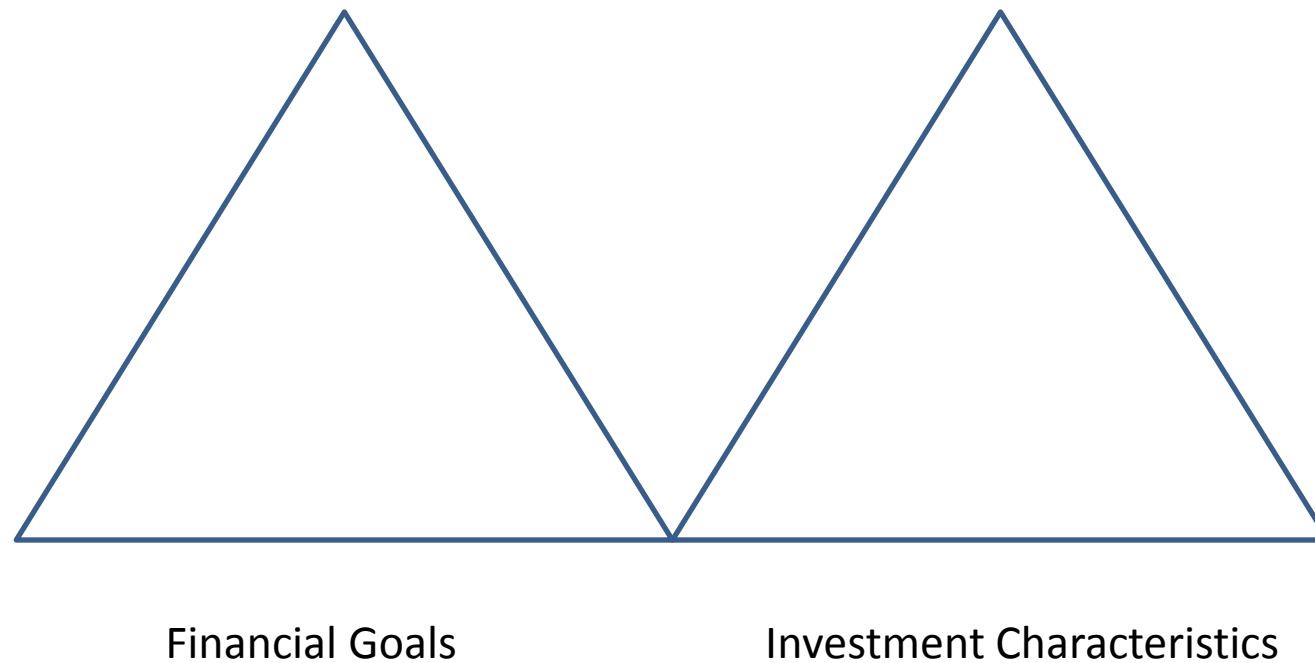
5. Investment Policy and Asset Allocation

Behavioral biases should be accounted for when creating IPS and defining asset allocation

Think about:

1. Which biases does the client show evidence of?
2. Which bias dominates
3. Effect of biases on asset allocation
4. What adjustments should be made to a 'rational' asset allocation to account for client's behavioral makeup

The Goal-Based Investment Approach is one way of incorporating behavioral finance into an IPS



5.1 Behaviorally Modified Asset Allocation

Adapt to Bias
or
Moderate Impact of Bias

Adapt to Bias vs. Moderate Impact of Bias

High Wealth Low SLR		
Low Wealth High SLR		
	Cognitive Errors	Emotional Biases

Deviations from a Rational Portfolio

High Wealth Low SLR	Modest Asset Allocation Change +/- 5 to 10%	Stronger Asset Allocation Change +/- 10 to 15%
	Close to Rational Asset Allocation +/- 0 to 3%	Modest Asset Allocation Change +/- 5 to 10%
Cognitive Errors		Emotional Biases

5.2 Case Studies

- Extremely Important!
- Exhibit 7: Practical method of detecting biases
- Exhibit 8: Digging deeper to confirm specific biases
- Read the cases carefully
- Jot down you solution in bullet point format
- Read solution

Review learning objectives

Examples

Practice Problems

2 Case Studies. 12 Practice Problems